

PATENT COOPERATION TREATY

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INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference Case 22223 WO	FOR FURTHER ACTION <div style="text-align: right;">See Form PCT/IPEA/416</div>	
International application No. PCT/EP2004/011469	International filing date (day/month/year) 13.10.2004	Priority date (day/month/year) 21.10.2003
International Patent Classification (IPC) or national classification and IPC C11B5/00		
Applicant DSM IP ASSETS B.V.		
1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36. 2. This REPORT consists of a total of 5 sheets, including this cover sheet. 3. This report is also accompanied by ANNEXES, comprising: a. <input type="checkbox"/> sent to the applicant and to the International Bureau) a total of sheets, as follows: <input type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions). <input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box. b. <input type="checkbox"/> (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) , containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions). 4. This report contains indications relating to the following items: <input checked="" type="checkbox"/> Box No. I Basis of the opinion <input type="checkbox"/> Box No. II Priority <input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability <input type="checkbox"/> Box No. IV Lack of unity of invention <input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement <input type="checkbox"/> Box No. VI Certain documents cited <input type="checkbox"/> Box No. VII Certain defects in the international application <input type="checkbox"/> Box No. VIII Certain observations on the international application		
Date of submission of the demand 26.07.2005	Date of completion of this report 20.10.2005.	
Name and mailing address of the international preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized Officer Adechy, M Telephone No. +49 89 2399-8576 	

**INTERNATIONAL PRELIMINARY REPORT
ON PATENTABILITY**

International application No.
PCT/EP2004/011469

Box No. I Basis of the report

1. With regard to the **language**, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
- ☐ This report is based on translations from the original language into the following language , which is the language of a translation furnished for the purposes of:
- ☐ international search (under Rules 12.3 and 23.1(b))
 - ☐ publication of the international application (under Rule 12.4)
 - ☐ international preliminary examination (under Rules 55.2 and/or 55.3)
2. With regard to the **elements*** of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:

Description, Pages

1-8 as originally filed

Claims, Numbers

1-16 as originally filed

- ☐ a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing
3. ☐ The amendments have resulted in the cancellation of:
- ☐ the description, pages
 - ☐ the claims, Nos.
 - ☐ the drawings, sheets/figs
 - ☐ the sequence listing (*specify*):
 - ☐ any table(s) related to sequence listing (*specify*):
4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
- ☐ the description, pages
 - ☐ the claims, Nos.
 - ☐ the drawings, sheets/figs
 - ☐ the sequence listing (*specify*):
 - ☐ any table(s) related to sequence listing (*specify*):

* If item 4 applies, some or all of these sheets may be marked "superseded."

**INTERNATIONAL PRELIMINARY REPORT
ON PATENTABILITY**

International application No.
PCT/EP2004/011469

Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	1-13
	No: Claims	14-16
Inventive step (IS)	Yes: Claims	1-13
	No: Claims	14-16
Industrial applicability (IA)	Yes: Claims	1-16
	No: Claims	

2. Citations and explanations (Rule 70.7):

see separate sheet

Re Item V

**Reasoned statement with regard to novelty, inventive step or industrial applicability;
citations and explanations supporting such statement**

1) Reference is made to the following documents:

- D1: EP-A-0 612 346 (HOFFMANN LA ROCHE) 31 August 1994 (1994-08-31)
- D2: EP-A-0 999 259 (HOFFMANN LA ROCHE) 10 May 2000 (2000-05-10)
- D3: EP-A-0 340 635 (KABIVITRUM AB) 8 November 1989 (1989-11-08)
- D4: US-A-5 084 289 (SHIN HYUN-KYUNG ET AL) 28 January 1992 (1992-01-28)

2) Novelty Art 33 (1) and (2) PCT

A method for stabilising polyunsaturated fatty acids ester concentrate by adding rosemary or sage extract, as well as ascorbyl palmitate and tocopherol before deodorisation procedure, and a crystallization inhibitor.

D2 (paragraphs 4, 6, 30-40, abstract) teaches the stabilisation of marine oil by means of rosemary or sage extract, followed by a deodorisation procedure. D2 specifies that the oil is treated with silica according to the procedure of EP612346 (D1) in the presence of rosemary extract. The product obtained is free of fish odour and stabilised towards oxidation. Although D2 refers to the procedure of D1, it is not unambiguous that the whole procedure of D1 is included (i.e. silica treatment followed by the addition of ascorbyl palmitate and tocopherols), and D2 suggests that the presence of tocopherol and ascorbyl palmitate is optional and should be added after deodorisation, which could suggest that only the silica treatment is referred to in D2 when mentioning the procedure of D1.

The subject matter of claim 1 is therefore regarded as novel.

However, the stabilised PUFA of claim 14, as well as their use in food applications (claims 15 and 16) is not regarded as novel since the product obtained (deodorized marine oil) does not seem to contain any distinguishing features over existing deodorized fish oil. Food application of such a product are also known from, e.g., D2. Moreover, a marine oil encompasses the broad term "PUFAs concentrate".

3) Inventive step Art 33 (1) and (3) PCT

**INTERNATIONAL PRELIMINARY
REPORT ON PATENTABILITY
(SEPARATE SHEET)**

International application No.

PCT/EP2004/011469

The problem to be solved is to stabilise and reduce fish smell of polyunsaturated fatty acids by means of a mixture of rosemary extract, tocopherol, ascorbyl palmitate prior to vacuum steam deodorization.

D2, the closest prior art, differs from the present invention in that tocopherol and ascorbyl palmitate should always be added, if necessary, after the deodorisation procedure.

There is not suggestion in the prior art as to add specific antioxidant prior to deodorizing the oil in order to improve marine oil stability as well as reducing the fish odour.